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ABSTRACT

Responsibility for the declining quality of the work force is evenly distributed among managers, schools, students, and the government. What is required is a new publicly sponsored partnership linking the nation's enterprises, schools, and workers. Primary responsibility for improving the quality of the work force lies with the enterprise. The firm needs to develop a flexible portfolio of worker skills, capable of quick adjustments in production aims and methods. Enterprises should be responsible for determining skill requirements and communicating those needs to educational suppliers. The nation faces a dual challenge: to prepare future workers by improving the nation's schools and to reequip the current labor force through work-related education and training. Schools need to focus more on product, less on process and to teach core competencies: mathematics, communication skills, and citizenship. The success of retraining efforts depends on the emergence of local markets that link corporate customers with educational suppliers. Too many workers lack the information and confidence to build effective skill portfolios. Individuals must be comparison shoppers for educational purchases, invest in broad-based skills for long-term payoff, and build a productive partnership with the employing firm. Public agencies must improve public schools, facilitate local market linkages, and evaluate federal funding of proprietary education. (YLB)

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The Challenge: To revitalize the nation's economy by making long-term investments in a skilled workforce.

	What does the research tell us?	What do we need to do next?
Enterprises	Too many managers do not know how to utilize the skills of employees.	1 Stop blaming the worker. 2 Manage the enterprise as a portfolio of employee skills. 3 Treat schools as suppliers.
Schools	Too many poorly managed schools are producing unskilled, undisciplined workers.	1 Focus more on product, less on process. 2 Teach core competencies: mathematics, communication skills, citizenship. 3 Recognize firms as well as students as customers.
Workers	Too many workers lack the information and confidence to build effective skills portfolios.	1 Become comparison shoppers for educational purchases. 2 Invest in broad-based skills for long-term payoff. 3 Build a productive partnership with employing firm.
Public Policy	There is no single solution, no "magic bullet."	1 Improve public schools. 2 Facilitate local market linkages among enterprises, schools, and workers. 3 Re-evaluate federal funding of proprietary education.

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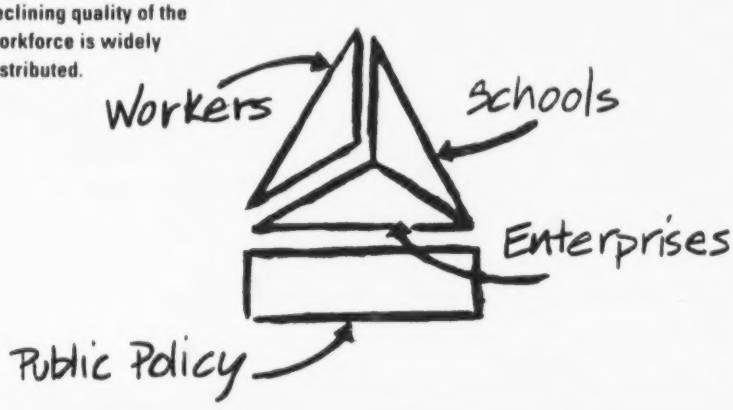
The EQW Triangle

Blaming the American worker for getting us into an economic mess makes no more sense than blaming government for not getting us out of it. Responsibility for the declining quality of the workforce is widely distributed—among managers who do not know how to develop the skills of their employees, among schools that graduate too many unprepared workers, among students and families who have become uncertain educational shoppers, confused about the skills needed in tomorrow's workplace. What is required is a new publicly sponsored partnership—what we call the EQW Triangle—linking those who need to make a difference: the nation's enterprises, schools, and workers.

Responsibility for the declining quality of the workforce is widely distributed.



Enterprises

Primary responsibility for improving the quality of the workforce lies with the enterprise. In the American system, each enterprise is responsible for gauging markets, designing products, and defining terms of employment, including the educational prerequisites and skill requirements of particular jobs. It is the enterprise that must assign employees specific tasks, drawing a competitive advantage from their abilities and preparedness for work.

Over the last twenty years, the American enterprise has fallen behind its international competition in the performance of these basic management tasks. Managers frequently have blamed declining productivity on workers and schools, without first examining their firms' human resource policies and practices. Limited primarily to behavioral and managerial instruction, most employer-sponsored training programs have not concentrated on upgrading technical competencies or product knowledge. Those responsible for human resources in general, and education and training programs in particular, often have remained outside the "business of the business," isolated from the firm's strategic planning. Impermanent and underfunded, training programs in many large firms have succumbed to current fads: one year's introduction of "quality circles" gives way to the next year's fascination with "total quality management." Judged by the yardstick of share value, senior executives too often have favored transactional profits at the expense of long-term investments in employee productivity. From this perspective, American managers have gotten the workers they deserve.

As more and more firms downsize, thinning the ranks of middle and supervisory management, the need for a skilled, adaptive workforce becomes less a matter of rhetoric, and more a matter of necessity. There is a growing sense that rigid, hierarchical corporate structures should be replaced by team-based organizations, encouraging rather than blocking variable work assignments and fluid job classifications. The

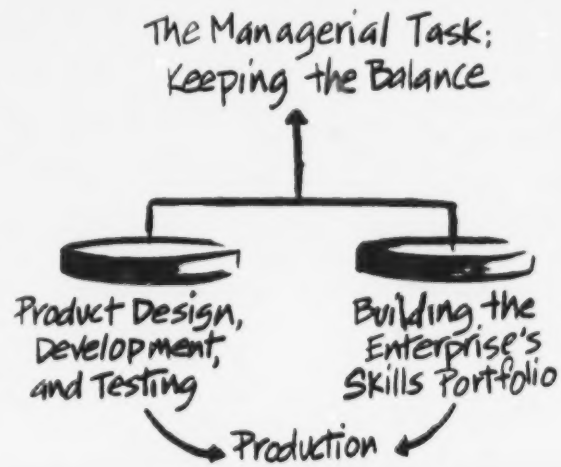
firm itself needs to become a flexible portfolio of worker skills, capable of quick adjustments in production aims and methods. For such an organization to evolve, work-related training must focus more on broad-based competencies and less on narrow job requirements.

The firm cannot be the primary supplier of training. Small firms do not generate sufficient demand to justify the fixed costs required for training programs, and large firms are vulnerable to "pirating" of newly trained personnel by rival companies. For these reasons, most enterprises cannot bear the full cost or primary operating responsibility for work-related education and training. What is needed is a network of overlapping markets that links corporate consumers with educational suppliers.

In such a network, enterprises would be responsible for determining skill requirements and communicating those needs to educational suppliers as well as to current and future employees. Work organization would be configured to take full advantage of the skills being acquired. Logically, training in firm-specific or product-specific knowledge should be the financial responsibility of the benefitting firm. The costs associated with more generic training would be shared by the firm, by the benefitting employee, and by the general community. The mechanisms of delivery would vary from market to market, from industry to industry, from state to state. In every situation, however, consuming enterprises—acting individually and collectively—would assume primary responsibility for defining and signalling the need for new or improved work-related skills.

Schools

Beginning in the 1960s and continuing today, the decline of American schools has been a major tax on the nation's productivity. In recent years, there has been an increasing gap in performance between the schoolchildren of America and the children of our principal economic competitors. What is only now being recognized is that the decline affects both the top and the bottom of our educational system. Probably the most dismaying statistic concerns the mathematical skills of students in the top 20 percent of their age cohort in the western world's six most industrialized countries. In this comparison, American schoolchildren scored first in self-confidence and last in performance.


The Managerial Task: Keeping the Balance
Product Design, Development, and Testing
Building the Enterprise's Skills Portfolio
Production

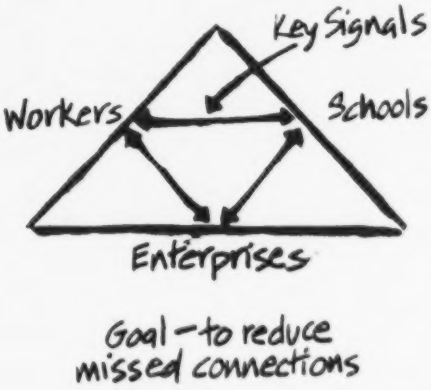
Judged by the yardstick of share value, senior executives too often have favored transactional profits at the expense of long-term investments in employee productivity.

Explanations for the decline in the educational quality of American schools abound. Most obvious is the deterioration of basic teaching—a function of low salaries and low status, the erosion of support for public education, and the fact that highly skilled women have increasingly sought careers in other sectors. Schools, like almost all public agencies over the last few decades, have lost their sense of particular purpose, functioning all too often as general service agencies in the battle against drugs, crime, and disintegrating family life.

Economically depressed school districts are not the only problem. Diminished capacities and muddled missions are also characteristic of the nation's better-funded schools, suggesting issues of pedagogy as well as environment. During the 1970s and 1980s, a growing preoccupation with educa-

tional process overshadowed the schools' traditional emphasis on educational content. A widespread concern with educational empowerment—making students feel good about themselves—was accompanied by reluctance to measure academic performance; curricula at every level stressed experience rather than knowledge. As a result, there was a slow but perceptible erosion of the educational quality of the workforce. Today, the lament of employers everywhere is that graduates of the nation's schools are not equipped for work: they simply are not good enough in terms of the skills and discipline they bring to the workplace.

Enterprises would be responsible for determining skill requirements and communicating those needs to educational suppliers as well as current and future employees.



Clearly, the nation faces a dual challenge: to prepare future workers by fixing the nation's schools, and to re-equip the current labor force through work-related education and training. For the workers of tomorrow, the process begins today with a school curriculum grounded in core competencies such as mathematics, communication skills, and citizenship. These curricular reforms represent an essential investment in the country's future economic health.

As a nation we also must deal realistically with current needs. A majority of those Americans who will comprise the labor force a decade from now are out of school already and in the workplace. The U.S. economy obviously cannot be put on hold until the arrival of a new generation of properly educated entry-level workers—hence the urgency to develop effective job-related education and training for current workers. The solution is incumbent upon a growing array of postsecondary institutions—colleges, universities, training schools, corporate education programs—that collectively bear responsibility for instilling and upgrading job skills.

The success of retraining efforts nationwide depends on the emergence of local markets for work-related education and training, markets that effectively link corporate consumers with educational suppliers. Much of what must be done will necessarily be ad hoc and experimental. There will be no single answer or strategy, rather a variety of programs and initiatives—some enterprise-specific, some industry-wide, some linking the manufacturing, service, and public service sectors of local and regional economies.

Workers

Average citizens in the United States not only believe in education, they act on those beliefs. The past two decades have witnessed an unprecedented growth in adult education as well as a steady increase in the proportion of high school graduates who enroll in college. These trends confirm that education is still part of the American dream: in the quest to secure better lives for themselves and their families, American wage-earners remain willing to bet their time, their energy, and their savings on the proposition that education makes a difference.

For far too many families, however, the dream has become a nightmare of conflicting information, unfulfilled expectations, and unusable credentials. Where, asks the American worker, is the payoff for my investment in education and training?

Again, the explanation lies not in a single, simple cause but in a series of failed connections. Perhaps the most obvious

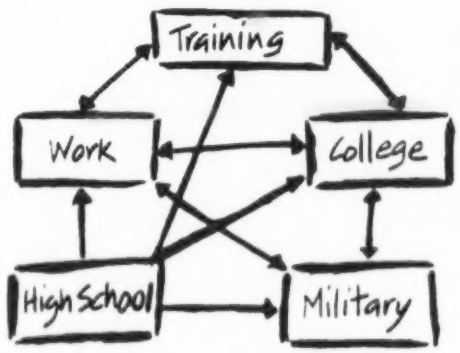
mismatch of educational supply and demand occurs in the nation's system of higher education. Today's typical college student is not the typical student of the 1960s or 1970s or even the 1980s. The student body of those years—dominated by white, male, middle-income teenagers who proceeded directly from high school to college—has given way to the "new majority"—older, more diverse, more experienced, more likely to attend part-time than full-time, more likely to combine work and school.

Eager to offset the effects of a shrinking pool of eighteen-year-olds, the nation's colleges and universities have been quick to recruit new majority students but slow to recognize their needs. There is no reason to assume that eighteen-year-olds and thirty-five-year-olds can or should be taught in the same way, yet most colleges continue to treat nontraditional students—often wage-earners with children of their own—as kids, serving up the same smorgasbord that nourished, or failed to nourish, teenagers of thirty years ago.

As consumers, nontraditional students must endure the double frustration of excess and insufficient supply: institutions of higher education are all too numerous, but amazingly few address the specific needs of older students who must combine work and school. The children of these older worker/students face much the same problem: how can the fragmented, blandly traditional curriculum advertised by one college after another prepare young people to enter the demanding work environment of the 21st century?

Bracketing the failures of higher education are other broken links in the chain meant to lead young Americans from school to further education and training and into productive worklives as mature "lifelong learners." Every year thousands of high school seniors graduate without having acquired the most fundamental skills—basic verbal and mathematical competencies needed for most jobs as well as for higher-level learning. Every year thousands of American workers try, but fail, to decode their employers' mixed messages about job-related education: encouraged by the firm to upgrade skills, employees dutifully return to school or participate in training programs, only to find their new skills unused and unrewarded on the job. This lack of purposeful guidance is equally apparent in public pronouncements on training. Workers hear about publicly sponsored training opportunities but lose their way in the maze of programs offered by local, state, and federal agencies.

For individuals who manage to improvise their way through the system, there await jobs—maybe. In today's rapidly changing markets, long-term employment potential is a better goal than traditional job security, and broadly applicable competencies are a better investment than narrow occupational skills. Just as corporate officers must begin to factor employee skills into their strategic planning, individual workers should rethink their own skills portfolios, making sure that their educational choices and work experiences enhance versatility as well as expertise.



The Educational Flow: not a pipeline but a neural network

Most colleges continue to treat nontraditional students—often wage-earners with children of their own—as kids, serving up the same smorgasbord that nourished, or failed to nourish, teenagers of thirty years ago.

In the final analysis, personal investment is still the American family's most powerful resource. As consumers of educational services, wage-earners and their families can choose to be comparison shoppers, patronizing those educational suppliers that offer real connections to the world of work. In other ways as well, workers can choose to take responsibility, individually and collectively, for the educational quality of their worklives—holding elected officials accountable for public school standards and building productive partnerships with both schools and employing firms.

It is an important lesson: real demand for education and training can be satisfied through a combination of enterprise initiative and state facilitation that makes the pooling of resources effective.

For these changes to occur, for the American labor force to begin exercising its power of choice in purposeful and influential ways, employees as well as employers need to understand that the days of worker-bashing are over. While rightfully refusing to shoulder the blame for the nation's economic decline, American workers can rightfully assume responsibility for completing the triangle, adding their voices to a new kind of conversation and lending their strength to a new kind of work.

Public Policy

Discussions of workforce quality are often riddled with "magic bullets"—proposals that aim for universal solutions through federally funded programs. The problems of education and work, however, are not simple. Any plan that does not acknowledge the complexity of these issues, or the diversity of resources required to address them, misses the mark.

Developing a network of efficient markets for work-related education and training will require effective public policies for linking the needs of consuming enterprises, the capacities of educational suppliers, and the aspirations and energies of benefitting workers. In such a network, public agencies can be expected to play three principal roles.

First and foremost, public agencies bear primary responsibility for ensuring the quality of public education through the years of compulsory schooling. The requirements are well understood: stable funding, a focus on standards, and a teaching corps that is adequately respected and rewarded. Businesses, for their part, must stop treating schools as social agencies, something akin to their favorite charities, and instead work with schools as they work with their other major suppliers.

Second, public agencies are uniquely positioned to provide information and facilitate communication. How are changes in the world of work—evolving technologies, international competition, streamlined work organization, customized production techniques—affecting the demand for worker skills and the capacities of educational suppliers? Through R & D and dissemination of basic information about education and training, public agencies can help answer these questions, keeping consumers as well as suppliers informed about the workings of the educational market. Consumers and suppliers also must be able to talk to one another. It is the responsibility of public agencies to create a communication infrastructure—allowing for state and national forums as well as broadly distributed publications and other media presentations—to promote a triangulated exchange of ideas among enterprises, schools, and workers.

Third, the facilitation role assigned to local, state, and federal governments includes assisting in the formation of

funding mechanisms for sharing the cost of general work-related education and training across the full span of employing enterprises and consuming households. On occasion, this may include direct funding of training programs, though such involvement should be clearly reserved for market failures.

Here, certain cautions are in order. As the first beneficiaries of upgraded worker skills, enterprises should bear principal responsibility for meeting the cost of training, especially training that directly improves the firm's current profitability. The federal government's current problems with proprietary training schools, whose primary sources of income are federal student aid grants and proceeds from guaranteed student loans, argue against over-reliance on public subsidy, particularly in the form of a largely unregulated voucher system.

Publicly sponsored training programs also have been plagued by procedural difficulties, raising questions of fairness as well as effectiveness. Critics have charged federal/state JTPA programs, designed to assist disadvantaged and displaced workers, with "creaming"—favoring the most employable participants. In the case of state-initiated programs, the problem has tended to be "too much too soon," as legislatures have introduced a flood of inadequately prepared proposals and bills.

In many cases, the most helpful role of public agencies is to serve as brokers, where there is in fact a demonstrated demand for training. Recent experience in the manufacturing sector shows the potential value of such services. For example, the makers of parts for major manufacturers in key industries have been reporting not just increased, but unrelenting pressure from their customers to improve the quality of output—pressure that makes the demand for training tangible in terms of benefits as well as costs. Satisfying that demand has sent small and medium suppliers into the offices of a variety of state agencies whose mandate is to assist firms in acquiring effective training.

These agencies now report a quadrupling of client firms, most of which expect to pay the full cost of training. What the state agencies provide is not the training itself, but practical assistance and a mechanism for spreading the fixed training costs over a wider base of small firms, none of which has the capacity to mount a major training program of its own. About a quarter of the time, the actual cost of the training is subsidized by state funds targeted for economic development and preservation of manufacturing jobs within the state. It is an important lesson: real demand for education and training, distinct from the perceived need often cited by policymakers and educational leaders, can be satisfied through a combination of enterprise initiative and state facilitation that makes the pooling of resources effective.

Finally, it is important that the organizing and facilitating role of public agencies be coordinated, but not confused, with their more traditional responsibility to help disadvantaged Americans prepare for and secure work. By encouraging the development of a national network of markets for work-related training and education, public agencies will be helping the most productive component of the workforce remain competitive in a world economy. It is an investment that also will ensure sufficient funds and incentives for aiding the disadvantaged.

Putting the triangle together will not be a neat and tidy process. It took more than two decades for the United States to lose its competitive economic advantage, and it will likely take until the end of the century to set right what has so clearly gone wrong. To establish the requisite network of education and training markets, two conditions must be met. First, firms and their employees must be recognized as prime customers of the nation's schools and other educational suppliers. Second, there must be an ongoing commitment to experimentation, an eschewing of magic bullets, in the search for a public policy that works. The result will be a set of linkages among American enterprises, schools, and workers that, over time, yields a more adept as well as adaptive workforce.

—Robert Zemsky and Peter Cappelli with Penney Oedel

The National Center on the Educational Quality of the Workforce

EQW is a partnership between one of this nation's premier business schools and one of its leading graduate schools of education. Established by the University of Pennsylvania's Wharton School and Graduate School of Education under a cooperative agreement with the U.S. Department of Education, **EQW's** program of research and policy analysis takes as its principal challenge the renewal of American competitiveness through leveraged investments in the quality of the nation's workforce.

The **EQW** research agenda focuses on four broad questions:

1. What do employers need to know to better use the skills their workers bring with them and acquire in the workplace?
2. How can schools and other providers become more effective suppliers of skilled and disciplined workers?
3. How can workers develop more complete skills portfolios that combine the competencies and disciplines a productive economy requires?
4. What is the best role for public policy in the development of a work-related education and training market that efficiently links consuming firms, supplying schools, and educated workers?

EQW's Organization

The Center is chartered by the University of Pennsylvania and receives its principal funding from the U.S. Department of Education, Office of Educational Research and Improvement. It is affiliated with the New York State School of Industrial and Labor Relations at Cornell University, the International Centre for the Study of East Asian Development in Kitakyushu, Japan, and the Pew Higher Education Research Program, sponsored by The Pew Charitable Trusts. **EQW's** co-directors are Professor Robert Zemsky of the Institute for Research on Higher Education and Professor Peter Cappelli of the Wharton School's Center for Human Resources.

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Each *EQW ISSUES* grows out of the Center's linking of research and practice. The process begins with the identification of a key issue or problem and the research that best illuminates it. That research is next presented to a Sounding Board comprised of key practitioners—executives, educators, policymakers, and analysts—who contribute to and help shape, but are not responsible for, the resulting *EQW ISSUES*. For this reason, the individuals serving on a Sounding Board are not identified. For this inaugural issue, the Sounding Board consisted of national leaders concerned with the educational quality of the workforce.

The research for this inaugural issue included the following key Working Papers published by the Center during its first year of operation and a major study conducted by the Institute for Research on Higher Education in the mid-1980s:

Stephen Barley, *The New Crafts: On the Technization of the Workforce and the Occupationalization of Firms* (1991).

John Bishop, *A Program of Research on the Role of Employer Training in Ameliorating Skill Shortages and Enhancing Productivity and Competitiveness* (1991).

Peter Cappelli, *Are Skill Requirements Rising? Evidence from Production and Clerical Jobs* (1991).

Patricia M. Flynn, *Competitive Strategies of States: A Life-Cycle Perspective* (1991).

Robert G. Sheets, *Building a World-Class Front-Line Workforce: The Need for Occupational Skill Standards in State Workforce Preparation Programs* (1991).

David Stevens, *Advancing Adult Workforce Skills: Opportunities and Requirements for State Action* (1991).

Robert Zemsky and Martin Meyerson, *Training Practices: Education and Training Within the American Firm*, Institute for Research on Higher Education, University of Pennsylvania (1985).

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